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Journal of Emotional and Behavioral Disorders 2002; 10; 66

DOI: 10.1177/10634266020100020101

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Those Who Do Not Return:

Correlates of the Work and School Engagement of Formerly Incarcerated Youth Who Remain in the Community

MICHAEL BULLIS AND PAUL YOVANOFF

THE FEDERAL OFFICE OF SPECIAL Education's Transition Initiative was articulated and implemented in the early 1980s, with the goal of improving the postschool work experiences of all students with disabilities (Will, 1984). From a strict focus on employment instruction and outcomes, the transition effort expanded to include a more broad-based emphasis on community adjustment, of which employment was but one of several possible goals and outcomes (Halpern, 1993). Through this initiative, hundreds of projects have been conducted to address the transition needs of students in special education, both to study how best to provide transition services and to describe the transition experiences of students with disabilities in community settings to provide a baseline of results from which to judge transition achievement (Rusch, 1995).

Probably the best-known example of this latter group of projects was the National Longitudinal Transition Study (NLTS; Wagner, 1992), which (a) included a nationally representative sample of special education students and (b) was conducted prospectively to describe the school leaving and community adjustment experiences of students for up to

In this article we examine the facility-to-community transition experiences of formerly incarcerated youth in the sample who remained in the community for 1 year following release from the juvenile correctional system. Specifically, we studied the relationship of selected predictor variables to engagement status (a transition outcome based on working, going to school, or both activities) at two points in time after the participants exited the juvenile correctional system: 6 months post-exit (Time 1) and 12 months post-exit (Time 2). The data for the study were gathered in a 5-year longitudinal study that examined the community reintegration of 531 incarcerated youth from Oregon's juvenile justice system. Data were gathered on the sample while they were still in custody and then every 6 months through phone interviews in order to describe their work, educational, living, and social experiences in the community. Data on their return to the juvenile correctional system were gathered from an extant database maintained by the state agency. Findings suggest that (a) transition and post-exit services may need to be focused to particular subgroups and (b) career/vocational instruction in the juvenile correctional setting coupled with services offered upon returning to the community could have a positive impact on the adjustment of incarcerated youth.

4 years after leaving school (Valdes, Williamson, & Wagner, 1990a, 1990b). One of the most salient findings from the NLTS was how poorly students with emotional disorders (ED) performed on nearly every transition outcome variable in relation to their peers with other types of disabilities (Marder, 1992; Valdes et al., 1990a, 1990b). In addition, youth with ED performed antisocial acts at rates far above those committed by members of other disability groups (Marder, 1992).

There have been few studies, however, on the facility-to-community transition of incarcerated youth and even fewer in-

cluding or focusing on those individuals with a special education disability who are incarcerated (Rutherford, Bullis, Wheeler Anderson, & Griller, in press). The importance of such findings has been underscored with the rise of violent crimes in the adolescent age-group (Koop & Lundberg, 1992) and the increased concern among the general public about school safety and juvenile crime (Elam, Rose, & Gallup, 1994). It follows that if services to incarcerated youth are to be effective, resulting in better outcomes for them and a concomitant benefit to society, it is imperative to establish a baseline of infor-

mation about their experiences in the community in order to guide these efforts. In the absence of such data, program revisions and services may completely miss important issues and procedures that could affect these persons' community adjustment positively.

We recently completed the 5-year TRACS research project (Transition Research on Adjudicated Youth in Community Settings; Bullis, 1994; Bullis, Yovanoff, Havel, & Mueller, 2001; Bullis, Yovanoff, Mueller, & Havel, in press), which examined the facility-to-community transition experiences of youth who were incarcerated in the Oregon Youth Authority (OYA), the state's juvenile correctional system. We recruited a sample of youth with and without a special education disability who were placed in that system and gathered data on (a) their educational, personal, and criminal histories and (b) the services and treatment they received while in the juvenile correctional system. After they exited OYA, we conducted interviews with the youth and, if possible, a family member every 6 months, in order to profile the youth's work, education, living, and social experiences and the community-based services they received.

In this article, we discuss part of that larger research effort and focus on the subsample of participants who remained in the community for the 12-month period after exiting the juvenile correctional system. This subsample is especially interesting as there was an overall return rate to the juvenile correctional system of roughly 45% to 50% for the TRACS sample (Bullis et al., in press) and for the population of incarcerated youth in Oregon from 1994 through 1997 (Bullis & Yovanoff, 1997). (Note that return rate should not be equated with recidivism. Because youth may return to the juvenile correctional system for reasons other than re-arrest, such as parole violations, recidivism tends to occur less frequently than return.) The vast majority of those youth who return to the juvenile correctional system in Oregon do so within 12 months (Bullis & Yovanoff, 1997). Thus, those incarcerated youth who return to and then remain in the community for

at least 1 year constitute a unique group that demands particular scrutiny.

We examined this subsample's Engagement (an outcome variable based on a combination of work and/or educational involvement) at two points in time: 6 months post-exit (Time 1) and 12 months post-exit (Time 2) from OYA. Specifically, two research questions were addressed: What was the engagement rate of the subsample at Time 1 and at Time 2? and What combination of demographic and service delivery variables best predicted the subsample's engagement at Time 1 and at Time 2?

METHOD

Research Design

The project used a follow-along (Halpern, 1990), or prospective (Menhard, 1990), survey approach. Participants were identified and recruited prior to leaving the facilities, and data were gathered on those individuals prior to their exit and then at 6-month intervals upon their return to the community for a period of 1 to 4 years in order to describe their institution-to-community transition experiences. This type of survey approach (a) increases the accuracy of data gathered because questions are asked in close proximity to when the event occurred and (b) allows for behaviors at an early data collection period to be examined in relation to behaviors at a later point in time.

Correctional Facilities

Two large juvenile correctional programs and three correctional camps were involved in this project. Site 1 is a coeducational youth correctional facility with an on-site high school that provides comprehensive educational services. Site 2 is a large youth correctional facility serving male offenders who are older on average than those male offenders placed in Site 1. The three camps included in the study were extensions of the larger facilities. The camps serve smaller numbers of youth than Site 1 or Site 2 and offer similar types of educational, social, and work

programs. Generally, just under half of the youths in custody in Sites 1 or 2 will be transferred to one of the camps prior to being paroled into the community.

Participant Selection and Recruitment

Participant recruitment continued for the first 3 years of the project. Retired teachers or part-time staff from the participating sites, who were familiar with the nuances of each program and the facility files, were hired, trained, and monitored to (a) explain the research procedures and recruit participants, (b) secure informed consent forms, and (c) complete data collection instruments based on facility files and personnel.

At both Site 1 and Site 2, we decided to use the residential units as the sampling frame, as persons are placed into these units according to gender (Site 1 is the only site to serve females), age, and—to a certain degree—type of antisocial behavior (e.g., sex offenders are in one unit, substance abusers are in another unit). We decided to sample the cottages on a monthly basis at Site 1 and on a bimonthly basis at Site 2 because of the generally longer periods of incarceration at the latter facility. At Site 1, 1 or 2 from each cottage who were estimated to be released in that month were sampled. At Site 2, 2 or 3 from each living unit who were estimated to be released in the next 2 months were sampled. At the camps, 1 or 2 were sampled each month. Because of their smaller populations, individuals at the camps were sampled on an ongoing basis as they prepared to leave the respective facilities.

At each of the sites, recruiting persons within close proximity of the date they were to exit the juvenile correctional system proved difficult. The juvenile correctional system operates according to a "cap," which precludes more than a specified number of adjudicated youth being housed in each facility. Thus, individuals with less severe or less violent backgrounds may be moved back into the community quickly to make room for more severe or more violent offenders. Conversely, youth who did not conform to

rules or treatment guidelines while in custody were likely to have their stays lengthened or, depending on their jurisdictional status, to be moved to the adult correctional system. Thus, some individuals who were chosen for the study either (a) moved quickly to the community before we were able to secure a first interview or (b) took longer to exit the system than we had first thought. Over the recruitment period, a total of approximately 620 individuals were recruited. Of this total, 531 individuals left the juvenile correctional system, entered the community, and constituted the sample on which the TRACS project is based.

To determine how similar or different the TRACS sample was in relation to the OYA population at large, we compared the sample's basic demographic characteristics (i.e., age, ethnicity, gender, special education label, type of crime) with (a) OYA's special education population from 1993 to 1998 (the time period roughly corresponding to the period of the TRACS project) and (b) OYA's total population from 1993 to 1998. As compared with the OYA population, the TRACS sample (a) had a higher percentage of females; (b) had similar percentages of individuals from cultural ethnic minorities; (c) was younger at age of first commitment; (d) included a higher percentage of persons with property-related crimes; and (e) included a lower percentage of persons with person-related crimes. As compared with the OYA special education population, TRACS participants with a special education label (a) were older; (b) had a higher percentage of females; (c) had a lower percentage of individuals with emotional disturbance (ED); (d) had a higher percentage of individuals with specific learning disabilities (SLD); and (e) had a lower percentage of persons with multiple special education disability labels.

In this article we focused only on those individuals from the TRACS sample who did not return to the juvenile correctional system or enter the adult correctional system over the 12-month period between their exit from the juvenile system and the Time 2 interview (12 months post-exit). The subsample is described next.

Subsample Characteristics

The participants in the subsample described in this article were distributed in the following way across correctional facilities: 59 came from Site 1, 38 from Site 2, 2 from camps, and 9 participants had missing data. Table 1 presents the demographic variables on which we compared those TRACS participants who were not sampled for this study (i.e., those who returned to the juvenile correctional system for some reason at some point during the 12-month post-exit period) and those who were (i.e., those who remained in the community across the 12-month post-exit period). For each comparison, we calculated a chi-square statistic between the two groups and tested the null hypothesis. Because of the number of univariate comparisons, we used a per-comparison alpha level of .01 to protect against the possibility of finding statistically significant difference by chance (Keppel, 1982).

As compared with TRACS participants who did not qualify for this study, the subsample we examined included (a) a higher proportion of females and a lower proportion of males and (b) a lower proportion of participants with a special education disability. First, the fact that females are overrepresented in this group makes sense, as other analyses we have conducted on the TRACS data set (Bullis et al., 2001; Bullis et al., in press) document that a higher proportion of females than males from the sample remained in the community and out of the juvenile correctional system. Second, we found in other analyses that participants in the TRACS sample with special education disabilities were (a) more likely to return to OYA or enter the adult correctional system than were participants without special education disabilities and (b) less likely to become engaged in work or school after leaving OYA (Bullis et al., 2001; Bullis et al., in press). Because the subsample we selected for this study was, by definition, successful in remaining in the community and unique within the TRACS sample, it is understandable that this subsample would exhibit a lower incidence of spe-

cial education disabilities than the total sample.

Data Collection Forms and Procedures

To ground our data collection procedures firmly within a theoretical base, we first developed a conceptual model of institution-to-community transition. The *pre-facility phase* of the model included those characteristics and experiences that are inherent in the individual and/or that were experienced prior to entry into the institutional setting. The *facility phase* referred to the educational and social interventions and experiences offered to youth while incarcerated. Finally, the *facility-to-community transition phase* addressed the work, school, living, social, and antisocial behaviors exhibited by participants upon reentering the community setting and the services they received from education and social service agencies.

Using this model as a foundation, we developed, refined, and tested the data collection forms and procedures we used in the project. Data collection forms first were reviewed by project staff to ascertain their relevance and need for revision. After the first revisions were made, the instruments were reviewed by the project's advisory board, which was composed of service providers and family representatives, for their review and recommendations. After all of the instruments were critiqued in this manner, they were pilot tested with a small number (e.g., $n = 10-15$) of representatives from the appropriate data collection audience (e.g., youth, parents) and then finalized. Brief descriptions of the forms and procedures are offered next.

Referral Information. Demographic and level of services (i.e., the duration and types of services provided to each individual while in custody) forms were completed on each participant by the site staff person who reviewed individual files and coded the project forms.

Interviews. Structured interviews were conducted both in person and via the

TABLE I
TRACS Participants Sampled and Not Sampled for the
Current Analyses (in %)

Variable	TRACS sample		Total (N = 532)	χ^2	p
	Not sampled (n = 424)	Sampled (n = 108)			
Gender				11.50	.00***
Male	86.6	73.1	83.9		
Female	13.4	26.9	16.1		
History of alcohol/drug abuse treatment	67.4	73.3	68.6	1.28	.26
Family members convicted of a crime	57.6	54.4	57.0	0.30	.59
Age at first adjudication				0.12	.73
14 years or less	56.8	54.8	56.4		
More than 14 years	43.2	45.2	43.6		
Gang member	27.8	30.0	28.3	0.19	.67
Age at exit				0.01	.92
16 years or less	46.8	46.3	46.7		
Older than 16 years	53.2	53.7	53.3		
DSM-IV diagnoses	45.6	44.4	45.4	0.05	.83
Ethnic minority	20.7	16.2	19.8	1.08	.30
Special education disability	60.6	46.3	57.7	7.17	.01***
Person crime	29.5	26.7	28.9	0.33	.57
Property crime	39.1	37.1	38.7	0.13	.71
Person and property crime	31.4	36.2	32.4	0.87	.35

Note. Participants sampled for analyses reported in this article provided data at 6 months and 12 months, and they were in the community from exit through 12 months.

*** $p \leq .01$.

phone with youth by trained interviewers. Over the course of the project, three to four part-time interviewers at a time were hired to administer the interviews. These same interviewers also interviewed family members via the phone.

The interviews were clearly worded, and most questions required selecting from a set series of objective response alternatives. Before they were allowed to administer interviews in the project, interviewers were required to complete a 15-hour training program and to demonstrate an agreement index (total number of items – total number of disagreements/total number of items) of .95 with a pre-developed interview form reflecting the three interview protocols we used. Regular

biweekly meetings of the interviewers were held to resolve any questions and maintain continuity in interviewing. In all cases, the project coordinator made the final coding decisions. If necessary, the interviews were administered by project staff fluent in Spanish. Summaries of each of the interviews follow.

Initial Youth Interviews. Lists of participants were provided to the project coordinator, who then scheduled initial interviews at each site. Most initial interviews were administered individually and in person by a trained project interviewer before the participants exited the facilities. Due to scheduling problems a few initial interviews were conducted via the

phone. This interview protocol included questions relating to participants' social, family, educational, and work histories, and their opinions of their experiences in the juvenile correctional system. As part of the interview, a socioeconomic status form based on the Hollingshead four-factor index (Hollingshead, 1975) was administered. Because participants were to be interviewed at 6-month intervals via the phone after exit, a set of final questions related to contact information. All participants were able to provide phone numbers where they or a family member could be reached during that initial period.

Following Youth Interviews. Time 1 interviews related to that period of time

from exit from the juvenile correctional system to 6 months post-exit and Time 2 related to 6 months post-exit to 12 months post-exit. The questions on the following interview protocol asked about work, school, living, and social experiences in the 6-month period since the last interview.

Virtually all of the participants were able to give one or more contact phone numbers. Over the course of the study, we did find that these numbers would become disconnected or change. At least 15 attempts were made to contact participants before they were dropped from the potential respondent pool. On a yearly basis, interviewers were assigned to pursue hard-to-find cases and continued calling those individuals. Efforts to contact ceased only when the participant or one of his or her family members declined involvement or it became apparent that the individual was truly inaccessible.

Family Interviews. During the initial youth interviews, respondents were asked if there was a family member or guardian with whom they would maintain contact after release that we could contact to interview. If a name and contact information were given, that person was contacted to complete an informed consent form and to be interviewed regarding the participant's community experiences and his or her own opinion of the juvenile correctional system. We wanted to interview the family member in order to gain information on his or her perception of the services the youth received while in the juvenile correctional system. We were also aware that the target population for this project would be highly mobile and difficult to locate. Because studies have demonstrated that family members are accurate respondents regarding the youth's status on major transition outcomes (e.g., work, education, living variables; Levine & Edgar, 1994), we reasoned further that if we were able to interview the family member but not the youth, we would be able to increase the information base on the target population participant population by substituting data from the family member's interview. As for the youth interviews, at least 15 attempts were made

to contact family members before dropping them from the potential respondent pool.

Extant Databases. Data from OYA's extant database were collected on the participants' return to the juvenile correctional system. These data were gathered at the end of the 3rd year and then again at the end of the project. We also gathered data on which participants entered Oregon's Department of Corrections (DOC) for adult offenders at the end of the 3rd year, which we aggregated with interview data to establish commitment rates into that system. These data were combined with our interview data to verify that the subsample included in this study was, in fact, in the community at both data collection points.

Outcome and Predictor Variables

Outcome Variable. DeStefano and Wagner (1992) stated that many youth and young adults during the transition years may be involved in a number of activities and not fully integrated into a lifelong vocation. Therefore, they suggested that a more accurate index of success in the community, at least at this point in the lives of youth, can be reached by examining their involvement in school and work, an outcome index that is called *Engagement*. In this study, a participant was judged to be engaged if she or he was employed, or enrolled in a school program, or working and going to school, and not arrested or placed back into the youth or adult criminal justice systems.

Predictor Variables. We chose predictor variables based on (a) our review of the available research literature and (b) current interest on the part of policy makers. All predictor variables considered in this study were recorded dichotomously. We categorized these variables into three groups: *Demographic*, *In-Facility Services*, and *Services Received in the Community*.

Demographic variables included gender; history of treatment for substance

abuse; family members convicted of a felony; age at first adjudication (14 years was the median age for first adjudication in the TRACS sample); age at exit from the facility (16 years was the median age at exit from the juvenile correctional system for the TRACS sample); gang member; psychiatric diagnosis (from the *Diagnostic and Statistical Manual of the American Psychiatric Association [DSM-IV]*, 1994); emotional or behavioral disorder (EBD; a composite variable assigned those in the sample with either a special education label of emotional disturbance or a psychiatric diagnosis); cultural/ethnic minority status; special education disability; and the most serious type of crime for which each youth was committed to the juvenile justice system (i.e., person-related crime, property-related crime, both a person- and a property-related crime).

In-facility service variables included completion of career or vocational classes, receipt of a school completion document while in custody (i.e., graduate equivalency degree, high school diploma, or modified diploma), and job placement while in the facility.

Services received in the community included receipt of services from vocational rehabilitation, mental health, Social Security, welfare, and public employment. Because of our interest in studying the effects of services offered immediately upon leaving the facility, we included only services received from exit through Time 1 data collection (6 months post-exit) in our analyses.

For the analysis to predict Engagement at Time 2, we examined participants' Engagement at Time 1. We made this choice based on our interest in the impact of participants' status immediately after exiting the juvenile correctional system on Engagement at Time 2.

Data Analyses

What Was the Engagement Rate of the Subsample at Time 1? At Time 2? We first calculated the percentage of the total number of participants who were working, in school, and not in the juvenile

or adult correctional system at Time 1 (6 months after exit from the facility) and Time 2 (from Time 1 to 12 months after exit). In examining these data, it became clear that there were four distinct groups: those individuals who were (a) never engaged, (b) engaged only at Time 1, (c) engaged only at Time 2, and (d) engaged at Time 1 and Time 2. We then computed descriptive statistics for each of the Demographic, In-Facility Services, and Services Received in the Community variables we examined in this study across the four groups.

What Combination of Demographic and Service Delivery Variables Predicted the Subsample's Engagement at Time 1? At Time 2? We used logistic regression to address this question. Logistic regression is a multivariate procedure that is ideally suited to predicting a dichotomous outcome variable (i.e., Engagement) from a weighted, and simplest, combination of independent, or predictor, variables (Hosmer & Lemeshow, 1989, 2000; Pampel, 2000; Tabachnick & Fidell, 1996; Wright, 1995).

In addition to producing statistical results with corresponding p values, logistic regression provides an accompanying index of effect size (Thompson, 1999; Wilkinson & Task Force on Statistical Inference, 1999). Specifically, the analysis yields *odds ratios*, explicating the association of each of the predictor variables retained within a composite model with the outcome variable (Rudas, 1998). As a rule, odds ratios of 1.0 indicate that there is little or no association between the predictor and outcome variable and odds ratios of 2.0 or greater suggest important associations between variables (Hosmer & Lemeshow, 2000; Rudas, 1998). Depending on the way in which the predictor variables are coded, odds ratios can be either greater than 1.0 (e.g., 2.40) or less than 1.0 (e.g., .25). When odds ratios greater than 1.0 are calculated, the inference is that the event in question is "x times" more likely to occur. When odds ratios less than 1.0 are computed, it is necessary to calculate the inverse (e.g., $1.0/.25 = 4.0$) in order to explicate the association of the predictor variables with Engagement, and the in-

ference is that the event in question is "x times" less likely to occur.

We followed five steps in building the logistic regression models for Time 1 and for Time 2. First, we calculated a chi-square statistic of each predictor variable's univariate relationship to Engagement. Empty cells, or cells with frequencies of 5 or less, in the chi-square table can present misleading univariate results and should be excluded from the logistic regression model (Hosmer & Lemeshow, 1989, 2000; Tabachnick & Fidell, 1996). This problem was particularly pronounced in the Services Received in the Community group of variables, where we were forced to eliminate all of the variables in the group for low cell sample sizes except receipt of services from mental health. Because we were interested in the impact of services offered to incarcerated youth on their community adjustment after they leave the juvenile correctional system, we combined the eliminated variables in this group into a composite variable we called *receipt of services from community-based agencies*.

Second, we elected to retain predictor variables with p values $\leq .10$ and/or odds ratios ≥ 2.0 in this step of the model-building process (Hosmer & Lemeshow, 2000). Third, we examined the statistical associations and odds ratios of the chosen variables when placed within the composite logistic regression models for Time 1 and Time 2. Predictor variables that exhibited a p value $\leq .10$ and/or an odds ratio ≥ 2.0 in concert with other predictor variables were retained in the final model. We should note that the odds ratios of the variables in a composite model may vary from their independent associations with the outcome variable (see Table 4) because of colinearity with the other variables in the model. Fourth, if special education disability exhibited an association of $p \leq .10$ with Engagement at Time 1 or Time 2, we decided to examine the possible interaction of special education disability status with each logistic regression model. If the interaction was statistically significant at the .10 level we decided that the interaction term would be added to the model. Finally, we computed the association of the final model with En-

gagement by calculating a chi-square statistic of the total model and testing the statistical significance of that model at the .05 alpha level.

RESULTS

What Was the Engagement Rate of the Subsample at Time 1? At Time 2?

The columns in Table 2 represent the four groups within the subsample: (a) never engaged, (b) engaged only at Time 1, (c) engaged only at Time 2, (d) engaged at Time 1 and Time 2, and (e) total subsample. The rows present the percentage of the subsample involved in employment, education, or both pursuits at Time 1, Time 2, or Times 1 and 2.

Fourteen (13%) of the 108 participants in this study were never engaged at either Time 1 or Time 2; 23 (21%) were engaged only at Time 1; 13 (12%) were engaged only at Time 2; and 58 (54%) were engaged at both Time 1 and Time 2. Thus, in total, 81 (75%) of the participants were engaged at Time 1 (23 at Time 1 + 58 at Times 1 and 2) and 71 (66%) of the participants were engaged at Time 2 (13 at Time 2 + 58 at Times 1 and 2). Finally, 94 (87%) of the 108 participants in the subsample were engaged at some point over the study's time period.

What Combination of Demographic and Service Delivery Variables Best Predicted the Subsample's Engagement at Time 1? At Time 2?

The distributions of the Demographic, In-Facility Services, and Services Received in the Community variables across each of the four participant groups are presented in Table 3. Table 4 presents (a) the results of the chi-square analysis between each predictor variable and Engagement for those participants who were engaged at Time 1 or at Time 2; (b) odds ratios between each predictor variable and engagement at those two times; and (c) p values.

TABLE 2
Components of Engagement at Time 1 and Time 2

Engagement Components	Engagement									
	Never		Time 1		Time 2		Times 1 and 2		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Employment										
Never	3	21.4	3	13.0	0	0.0	4	6.9	10	9.3
Time 1	0	0.0	2	8.7	0	0.0	4	6.9	6	5.6
Time 2	1	7.1	1	4.3	1	7.7	16	27.6	19	17.6
Time 1 and 2	2	14.3	11	47.8	7	53.8	34	58.6	54	50.0
Missing data	8	57.1	6	26.1	5	38.5	0	0.0	19	17.5
Total	14	100.0	23	100.0	13	100.0	58	100.0	108	100.0
School										
Never	3	21.4	1	4.3	7	53.8	8	13.8	19	17.6
Time 1	1	7.1	6	26.1	2	15.4	9	15.5	18	16.7
Time 2	0	0.0	1	4.3	1	7.7	2	3.4	4	3.7
Time 1 and 2	2	14.3	9	39.1	1	7.7	39	67.2	51	47.2
Missing data	8	57.1	6	26.1	2	15.4	0	0.0	16	14.8
Total	14	100.0	23	100.0	13	100.0	58	100.0	108	100.0

Note. Engagement was defined as never arrested, living in the community, in school, and/or employed.

For Time 1 the following variables displayed a p value $\leq .10$ and/or an odds ratio ≥ 2.0 with Engagement at Time 1 and were included in this logistic regression model: age at first adjudication; gang member; completion document at exit; and receipt of services from mental health. Interestingly, completion document at exit was inversely associated with engagement; that is, persons who had a completion document upon leaving the juvenile correctional system were 5.88 (1.0/.17) times *less likely* to be engaged as compared to participants without a completion document. This finding most probably is due to the nature of the outcome variable of Engagement, which includes school and/or work activities. That is, it is unlikely that a youth who leaves the juvenile correctional setting with a school completion document will reenter school or enter postsecondary education upon returning to the community (Bullis et al., 2001). Ultimately, completion document at exit was dropped from the logistic regression model at Time 1 as it did not demonstrate either a statistical association

of at least $p \leq .10$ or an odds ratio ≥ 2.0 with Engagement at Time 1 when considered in concert with the other variables. Special education status also did not display a statistical association of $p \leq .10$ with Engagement at Time 1, so there was no reason to examine the possible interaction of this variable with the other predictor variables in the Time 1 model.

The results of the final logistic regression model for Time 1 are presented in Table 5. The table shows (a) the chi-square analysis between the composite model and Engagement, (b) odds ratios between each variable retained in the composite model and Engagement at each respective time, and (c) the respective p values. The final model for Time 1 included age at first adjudication, gang membership, and receipt of services from mental health. The full model demonstrated a statistically significant association ($p \leq .05$) with Engagement, and the following odds ratios were found between the three variables in the final model and Engagement at Time 1: Age at first adjudication—participants who were adjudicated after

the age of 14 were 2.24 times more likely to be engaged; gang membership—gang members were 2.08 times less likely to be engaged; and receipt of services from mental health—participants who received services from mental health were 4.83 times more likely to be engaged.

The final model for Time 2 included family member convicted of a crime, age at first adjudication, gang member, special education disability, person crime, completion of career/vocational classes while in custody, completion document at exit, and Engagement at Time 1. Neither family member convicted of a crime nor completion document at exit exhibited either a statistical association of at least $p \leq .10$ or an odds ratio ≥ 2.0 with the outcome variable when placed within the composite model and were eliminated from this analysis. Special education disability did not display a statistical interaction with the variables in the Time 2 model.

The results of the final logistic regression model for Time 2 are presented in Table 6. The table shows (a) the chi-square analysis between the composite model

TABLE 3
Univariate Summary of Independent Variables by Engagement

Independent variables	Engagement								Total	
	Never		Time 1		Time 2		Times 1 and 2			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender										
Male	9	64.3	16	69.6	8	61.5	46	79.3	79	73.1
Female	5	35.7	7	30.4	5	38.5	12	20.7	29	26.9
History of treatment for drug/alcohol abuse	11	84.6	17	81.0	9	75.0	37	67.3	74	73.3
Family members convicted of a crime	8	61.5	13	72.2	5	45.5	23	47.9	49	54.4
Age at first adjudication										
4 years or less	13	100.0	11	61.1	4	33.3	23	46.0	51	54.8
Older than 14 years	0	0.0	7	38.9	8	66.7	27	54.0	42	45.2
Gang member	8	61.5	6	28.6	3	25.0	13	24.1	30	30.0
Age at exit										
16 years or less	10	71.4	15	65.2	4	30.8	21	36.2	50	46.3
Older than 16 years	4	28.6	8	34.8	9	6.92	37	63.8	58	53.7
DSM-IV diagnosis	8	57.1	9	39.1	3	23.1	28	48.3	48	44.4
EBD label	21	33.0	51	80.0	39	61.0	35	55.0	64	59.0
Ethnic minority	4	30.8	3	13.0	0	0.0	10	17.5	17	16.2
Special education disability	9	64.3	15	65.2	2	15.4	24	41.4	50	46.3
Person crime	2	14.3	3	13.6	8	66.7	15	26.3	28	26.7
Property crime	7	50.0	10	45.5	3	25.0	19	33.3	39	37.1
Person and property crime	5	35.7	9	40.9	1	8.3	23	40.4	38	36.2
Services while in facility										
Career/vocational classes	10	71.4	12	54.5	8	61.5	46	80.7	76	71.7
Job placement through the institution	1	7.1	3	15.0	4	33.3	11	19.3	19	18.4
GED/high school completion at exit	2	50.0	4	26.7	6	100.0	16	47.1	28	47.5
Mental health services while in community	2	14.3	7	30.4	0	0.0	12	20.7	21	19.4
Services from other community-based agencies	6	42.9	16	69.6	5	38.5	27	46.6	54	50.0

Note. Engagement was defined as never arrested, living in the community, enrolled in school, and/or employed.

TABLE 4
Univariate Summary of Independent Variables by Engagement at Time 1 and Time 2

Independent variable	Engagement					
	Time 1			Time 2		
	χ^2	Ω	<i>p</i>	χ^2	Ω	<i>p</i>
Demographics						
Sex	1.90	0.52	0.17	8.89	0.66	0.34
Treatment for drug/alcohol abuse	0.77	0.61	0.38	2.16	0.47	0.14
Family members convicted of a crime	0.01	1.01	0.97	3.37	0.43	0.07*
Age at first adjudication	2.39	2.13	0.12	9.57	4.44	0.00**
Gang member	3.11	0.43	0.08*	3.06	0.46	0.08*
Age at exit	2.02	3.19	0.16	1.25	2.52	0.26
DSM-IV diagnoses	0.20	1.22	0.65	0.05	0.91	0.81
EBD	1.84	1.83	0.18	1.61	0.59	0.21
Ethnic minority	0.00	1.02	0.97	0.43	0.70	0.51
Special education disability	0.45	1.35	0.50	7.81	0.31	0.01***
Person crime	2.46	0.47	0.12	4.57	3.10	0.03**
Property crime	0.03	0.93	0.87	2.38	0.52	0.12
Person & property crime	2.57	2.27	0.11	0.17	0.84	0.68
In-facility services						
Career/vocational classes	0.45	1.38	0.50	3.01	2.15	0.08*
Job placement through the institution	0.01	0.93	0.91	1.51	2.08	0.22
GED/high school completion at exit	5.11	0.17	0.02**	2.83	2.65	0.09*
Services while in the community^a						
Mental health	3.33	3.83	0.07*	0.86	0.63	0.35
Other community-based agencies	1.23	1.65	0.27	2.01	0.56	0.16
Engagement at Time 1	—	—	—	4.95	2.72	0.03**

Note. All chi-square analyses were conducted as 1 degree-of-freedom tests. ^aServices offered from exit to Time 1.

p* ≤ .10. *p* ≤ .05. ****p* ≤ .01.

and Engagement, (b) odds ratios between each variable retained in the composite model and Engagement at each respective time, and (c) the respective *p* values. The final logistic regression model demonstrated a statistically significant association (*p* ≤ .01) with Engagement at Time 2. The following odds ratios were found between the variables in the final model and Engagement at Time 2: Age at first adjudication—participants who were adjudicated after the age of 14 were 3.16 times more likely to be engaged; special education disability—participants with a special education disability were 3.23 (1.0/.31) times less likely to be engaged; person-related crime—participants originally committed to OYA for a person-related crime were 4.07 times more likely to be engaged; completion of career/

vocational classes—participants who completed career/vocational classes while in custody were 2.06 times more likely to be engaged; and Engagement at Time 1—participants who were engaged at Time 1 were 4.05 times more likely to be engaged at Time 2.

DISCUSSION

What Was the Engagement Rate of the Subsample at Time 1 and at Time 2?

The Engagement rates of the subsample we included in this study were relatively high. For example, in the entire TRACS project, the total sample—including those who returned to the juvenile correctional system and those who did not—was 47% at Time 1 and 31% at Time 2.

Two other studies provide additional standards by which to judge the results of the subsample examined in this article. The ARIES (Achieving Rehabilitation, Independence, and Employment Success for Youth with Emotional Disabilities) project operated in the Springfield, Oregon, school district from 1995 through 1998 (Bullis, 1999). Transition staff provided service coordination, academic support, and job placement and training for 82 youth who either were labeled with an emotional disability, or were associated either with the county probation department or OYA through parole services. The Youth Transition Project (YTP) has been conducted in Oregon for the past decade as a joint venture between the Oregon Department of Education and the Division of Vocational Rehabilitation (Benz,

2000; Benz, Lindstrom, & Latta, 1999). The project currently operates in 35 counties and 174 high schools, and has served about 4,000 special education students, the majority being students with learning disabilities. YTP has received recognition from the U.S. Department of Education as one of 12 exemplary school-to-work programs in the country. At exit from the ARIES project, 65% of the project's participants were engaged in either school or work. In the YTP, 77% of the project's participants were engaged at exit from the service program, 79% of the participants were engaged 6 months after leaving the project, and 77% of the participants were engaged 12 months after leaving the project.

These additional standards, albeit from samples that are not directly comparable to the participants in this study, certainly point out that the subsample considered in this article performed well. However, it must be stressed again that youth in this subsample were selected precisely because they did not return to the juvenile correctional system and thus are different than the TRACS sample as a whole. Still, this subsample's engagement experiences point out that incarcerated youth can become successful after leaving the juvenile correctional system. Moreover, it may be that being engaged (i.e., working or going to school) was what contributed to keeping these participants from reentering the juvenile correctional system.

What Combination of Demographic and Service Delivery Variables Best Predicted the Subsample's Engagement at Time 1? At Time 2?

The fact that two logistic regression models, composed of different predictor variables, were found at Time 1 and at Time 2 carries implications for practice. Specifically, youth with different profiles may need to be targeted at these two points in time.

At Time 1, participants whose first formal adjudication occurred after the age of 14 and who were not gang-involved were more likely to be engaged than younger

Independent variable	β	SE	Ω	p
Age at first adjudication (0–14 or younger, 1–15 or older)	0.81*	0.52	2.24	0.12
Gang membership (0=no, 1=yes)	–0.73*	0.52	0.48	0.16
Mental health services (0=no, 1=yes)	1.57**	0.82	4.83	0.05
Constant	0.68			

Note. Model $\chi^2 = 8.83^{**}$, $p \leq 0.03$, $df = 3$; Classification accuracy—observed: no = 25, yes = 67; predicted: no = 14, yes = 78; % correct: no = 32.00, yes = 91.04; overall = 75.00.

* $p \leq 0.10$. ** $p \leq 0.05$.

Independent variable	β	SE	Ω	p
Age at first adjudication (0–14 or younger, 1–15 or older)	1.15**	0.55	3.16	0.03
Special education (0=no, 1=yes)	–1.16**	0.53	0.31	0.03
Person crime (0=no, 1=yes)	1.40**	0.65	4.07	0.03
Career/vocational classes (0=no, 1=yes)	0.72	0.56	2.06	0.20
Engaged at time (0=no, 1=yes)	1.40**	0.60	4.05	0.02
Constant	–1.07			

Note. Model $\chi^2 = 24.99^{***}$, $p \leq 0.001$, $df = 5$; Classification accuracy—observed: no = 31, yes = 59; predicted: no = 28, yes = 62; % correct: no = 61.29, yes = 84.75; overall = 76.67.

** $p \leq 0.05$. *** $p \leq 0.01$.

participants and those who were gang-involved. It is well known that individuals who begin a life of antisocial behavior early are more likely to continue those behaviors longer and in a more intense manner than persons who begin these patterns later in life (Patterson, Reid, & Dishion, 1992). The power of gang life as an influence on continuing antisocial acts has also been discussed (Walker, Schmidt, & Lunghofer, 1993). Logically, this influence could be especially pronounced in the first days after a youth returns to his or her previous community.

Conversely, participants who received services from mental health agencies were almost 5 times more likely to be en-

gaged within 6 months of leaving custody. This finding should be considered against the fact that we found that 43% of the total TRACS sample received services from mental health and only 20% of the sample received services from mental health at Time 1. In this study, 21, or 19% (21/108), received services from this agency. Thus, while these types of services are positively associated with engagement at this point in time, the services were not accessed by the majority of the youth we studied.

At Time 2, different predictor variables were identified than at Time 1. Again, youth whose first formal adjudication occurred after age 14 were more likely to be

engaged. Youth who were committed to OYA for a person-related crime were also more likely to be engaged. In an earlier study (Bullis & Yovanoff, 1997), we found that youth committed for property-related crimes were more likely to return to the juvenile correctional system than youth committed for person-related crimes. We speculate that for many youth who exhibit property-related offenses, the monetary and personal rewards of engaging in these crimes (e.g., burglary, motor vehicle theft) are powerful reinforcers and that these behaviors are easy to lapse into after returning to the community (Bandura, 1973). Further, a consistent finding in this program of research has been the poor involvement of youth with special education disabilities in positive community-based activities and their overrepresentation in returning to the juvenile correctional system and entering the adult correctional system (Bullis et al., 2001; Bullis et al., in press).

This subsample benefited from completing career/vocational classes while in custody, a finding corroborated by other studies for youth with special education disabilities from community-based, public education programs (e.g., Hasazi, Gordon, & Roe, 1985). This finding also is in line with the results of a qualitative study we completed recently, in which we examined successful, or "resilient," young adults who had been incarcerated as youth (Todis, Bullis, D'Ambrosio, Schultz, & Waintrup, 2001). The respondents in that study, and particularly those who did not return to the juvenile correctional system and who were working and living in the community several years after leaving those facilities, all commented on the importance of the facility-based services they received in terms of providing them with (a) marketable skills and (b) enduring role models (e.g., staff in the instructional programs) for how to behave as adults.

A theme that is consistent with the other analyses we have conducted so far in this project is this: being engaged at Time 1 is associated powerfully with Engagement at Time 2 (Bullis et al., 2001; Bullis et al., in press). Simply put, those youth who leave the juvenile correctional

system and who become involved in school or work in the first few months afterward are much more likely to continue this type of positive involvement. This result is very much in line with Kazdin's (1993) emphasis on the importance of providing youth with positive skills, which will generate rewards (e.g., money, praise, involvement with positive peers) and thus replace competing antisocial behaviors.

Finally, neither variable we chose to represent emotional disability (i.e., *DSM-IV* diagnosis or EBD, which was a combination of the special education label of ED and *DSM-IV* diagnosis) was associated in a statistically significant manner with engagement status at either Time 1 or Time 2. This result may be due to the fact that this was a small and purposefully selected sample in which there was insufficient variability to explicate such a relationship. Conversely, in another study of the transition experiences of a sample of youth with extreme antisocial behaviors, we did not find *DSM-IV* diagnosis to be related to engagement success (Bullis et al., 1994), but that study also included a small sample. One would assume that given the findings from the NLTS in which adolescents with ED demonstrated such poor transition success relative to peers with other types of special education disabilities, such findings would also be found in studies such as this one. We presently are conducting further analyses of the TRACS data set that may clarify this point.

IMPLICATIONS FOR RESEARCH AND PRACTICE

Before discussing the implications of the findings for practice and research, we should note that (a) the study included a relatively small number of participants and (b) this was a longitudinal research study in which there was no direct manipulation of the predictor variables. Further, the results are correlational; thus, the old adage "correlation does not imply causation" should be kept in mind when interpreting the results. Finally, we selected the persons in this study purposely to represent a unique group: those formerly incarcerated youth who do not return to

the juvenile correctional system or enter the adult one. Given the paucity of research relative to this population, however, we do strongly believe that our results have implications for practice and research.

Practice

The results of this study strongly indicate that services focusing on educational placement and securing appropriate competitive work should be provided to incarcerated youth immediately after their return to the community. While these results suggest that these services may need to emphasize different subgroups, such as youth with special education disabilities, at different points in time after release, it is likely that these services could be based within a generic service delivery model. These types of transition programs have been developed and described in the literature (e.g., Bullis & Cheney, 1999; Bullis & Fredericks, 2002; Cheney, Hagner, Malloy, Cormier, & Bernstein, 1998; Clark & Davis, 2000) but are not widely available in the community.

A complete discussion of the components of these programs is far beyond the scope and purpose of this article. Briefly, these programs should include the following service components: (a) provide for staff-to-participant ratios of 1:10 to 1:15; (b) allow staff the flexibility necessary to serve youth outside of the school setting and in the community; (c) place emphasis on service coordination with other agencies, job and alternative educational placements; (d) utilize functional skill assessments (i.e., assessments of work, living, and social skills); (e) involve each youth in a meaningful way to plan and develop his or her own transition services and placement options; and (f) provide social skill instruction addressing specific work and living skills and setting requirements.

Research

Although there is a logical connection between the types of services previously listed and successful community transition, there are scant evaluation data to sub-

stantiate such a conclusion. Controlled studies of the effect of community-based services on community adjustment outcomes should be conducted. Those efforts also should examine the type, intensity, and duration of those services and the relationship of different intensities and combinations of services on adjustment success. Additionally, cost-benefit analyses of these programs are needed. Transition programs of the type we described do cost money to develop, operate, and maintain; however, there also should be benefits realized both in terms of the individual's success and in terms of costs to the social service system. Whether or not these costs will outweigh the benefits that could be realized by reducing return rates to the juvenile correctional system and increasing positive behaviors (e.g., working and paying taxes) is a complex issue that will require careful study.

To conclude, it is clear that much more research is needed to document the needs and challenges faced by incarcerated youth as they reenter society from the juvenile correctional system. The transition process is not easy for the youth or their families, and we strongly suspect that the study of persons who are successful will help us to understand this process better (Todis et al., 2001). Knowledge of this type will have profound implications for service delivery, serving to develop programs that will, it is hoped, guide youth toward successful lives as young adults and, by extension, protect the general public by limiting the group's antisocial acts.

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Authors' Notes

1. The study described in this paper was funded through a Field Initiated Research grant from the Office of Special Education Programs. No official endorsement of the views expressed in this manuscript by that agency should be inferred.
2. The authors acknowledge and thank the Oregon Youth Authority and its staff for their assistance in completing this project.

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